SLOVENSKI STANDARD
SIST EN IEC 60793-2-40:2021

01-junij-2021

Nadomešča:
SIST EN 60793-2-40:2016

Optična vlakna - 2-40. del: Specifikacije izdelka - Področna specifikacija za mnogorodovna vlakna kategorije A4 (IEC 60793-2-40:2021)

Optical fibres - Part 2-40: Product specifications - Sectional specification for category A4 multimode fibres (IEC 60793-2-40:2021)

Lichtwellenleiter - Teil 2-40: Produktspezifikationen - Rahmenspezifikation für Mehrmodenfasern der Kategorie A4 (IEC 60793-2-40:2021)

Fibres optiques - Partie 2-40: Spécifications de produits - Spécification intermédiaire pour les fibres multimodales de la catégorie A4 (IEC 60793-2-40:2021)

Ta slovenski standard je istoveten z: **EN IEC 60793-2-40:2021**

ICS:

33.180.10	(Optična) vlakna in kabli	Fibres and cables

SIST EN IEC 60793-2-40:2021 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60793-2-40

April 2021

ICS 33.180.10

Supersedes EN 60793-2-40:2016 and all of its amendments and corrigenda (if any)

English Version

Optical fibres - Part 2-40: Product specifications - Sectional specification for category A4 multimode fibres (IEC 60793-2-40:2021)

Fibres optiques - Partie 2-40: Spécifications de produits - Spécification intermédiaire pour les fibres multimodales de catégorie A4
(IEC 60793-2-40:2021)

Lichtwellenleiter - Teil 2-40: Produktspezifikationen - Rahmenspezifikation für Mehrmodenfasern der Kategorie A4
(IEC 60793-2-40:2021)

This European Standard was approved by CENELEC on 2021-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 86A/1943/CDV, future edition 5 of IEC 60793-2-40, prepared by SC 86A "Fibres and cables" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60793-2-40:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-01-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-01

This document supersedes EN 60793-2-40:2016 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60793-2-40:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60793-1-1	NOTE	Harmonized as EN 60793-1-1
IEC 60793-2	NOTE	Harmonized as EN IEC 60793-2

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60793-1-20	-	Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry	EN 60793-1-20	-
IEC 60793-1-22	-	Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement	EN 60793-1-22	-
IEC 60793-1-40	2019	Optical fibres - Part 1-40: Attenuation measurement methods	EN IEC 60793-1-40	2019
IEC 60793-1-41	-	Optical fibres - Part 1-41: Measurement methods and test procedures - Bandwidth	EN 60793-1-41	-
IEC 60793-1-42	-	Optical fibres - Part 1-42: Measurement methods and test procedures - Chromatic dispersion	EN 60793-1-42	-
IEC 60793-1-43	-	Optical fibres - Part 1-43: Measurement methods and test procedures - Numerical aperture measurement	EN 60793-1-43	-
IEC 60793-1-46	-	Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60793-1-46	-
IEC 60793-1-47	-	Optical fibres – Part 1-47: Measurement methods and test procedures – Macrobending loss	EN IEC 60793-1-47	-
IEC 60793-1-50	-	Optical fibres - Part 1-50: Measurement methods and test procedures - Damp heat (steady state) tests	EN 60793-1-50	-
IEC 60793-1-51	-	Optical fibres - Part 1-51: Measurement methods and test procedures - Dry heat (steady state) tests	EN 60793-1-51	-

Publication	Year	Title	EN/HD	Year
IEC 60793-1-52	-	Optical fibres - Part 1-52: Measurement methods and test procedures - Change of temperature tests	EN 60793-1-52	-

IEC 60793-2-40

Edition 5.0 2021-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Optical fibres – Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres

Fibres optiques – Partie 2-40: Spécifications de produits – Spécification intermédiaire pour les fibres multimodales de catégorie A4

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 33.180.10

ISBN 978-2-8322-9437-6

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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OPTICAL FIBRES –

Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres

FOREWORD

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International Standard IEC 60793-2-40 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This fifth edition cancels and replaces the fourth edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) revision of NA range of A4a.2;
b) addition of a new subcategory A4i;
c) deletion of the subcategory A4f and of Annex F.

The text of this International Standard is based on the following documents:

CDV	Report on voting
86A/1943/CDV	86A/1981/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60793 series, published under the general title *Optical fibres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

OPTICAL FIBRES –

Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres

1 Scope

This part of IEC 60793 is applicable to category A4 optical multimode fibres and the related subcategories A4a, A4b, A4c, A4d, A4e, A4g, A4h and A4i. These fibres have a plastic core and plastic cladding and may have step-index, multi-step index or graded-index profiles. The fibres are used in information transmission equipment and other applications employing similar light transmitting techniques, and in fibre optic cables. Table 1 summarizes some of the salient characteristics and applications of these fibres.

Table 1 – Characteristics and applications of category A4 fibres

Sub-category	A4a		A4b	A4c	A4d	A4e	A4f	A4g	A4h	A4i
	A4a.1	A4a.2								
Core diameter (µm)	a		a	a	a	≥ 500	c	120	62,5	55
Cladding diameter (µm)	1 000		750	500	1 000	750	c	490	245[d]	490
Numerical aperture Na_{ff} [e]	0,50	0,53	0,50	0,50	0,30	0,25	c	0,190	0,190	0,24
Operating wave-length(s) (nm)	650[b]		650	650	650	650	c	650 850 1 300	850 1 300	850
Applications	Digital audio interface, automobile, industrial, sensor and data transmission		Industrial and sensor	Sensor	Digital audio-visual interface and data trans-mission	Digital audio-visual interface and data trans-mission	c	Data trans-mission	Data trans-mission; primarily used in ribbon structures	Industrial data trans-mission

[a] Typically 15 µm to 35 µm smaller than the cladding diameter.

[b] Other potential wavelengths for A4a fibre are described in Annex K.

[c] This sub-category is outdated and therefore no more specified.

[d] Cladding diameters of 490 µm and 750 µm are also possible.

[e] Na_{ff} is numerical aperture measured by far field pattern method.

In addition to the applications shown in Table 1, other applications for A4 fibres include, but are not restricted to, the following: support for short reach, high bit-rate systems in telephony, distribution and local networks, carrying data, voice and/or video services and on-premises intrabuilding and interbuilding fibre installations, including local area networks (LANs), private branch exchanges (PBXs), video, various multiplexing uses and miscellaneous related uses, such as consumer electronics and industrial and mobile networks.

Three types of requirements apply to A4 fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to category A4 multimode fibres covered in this document and which are given in Clause 4;